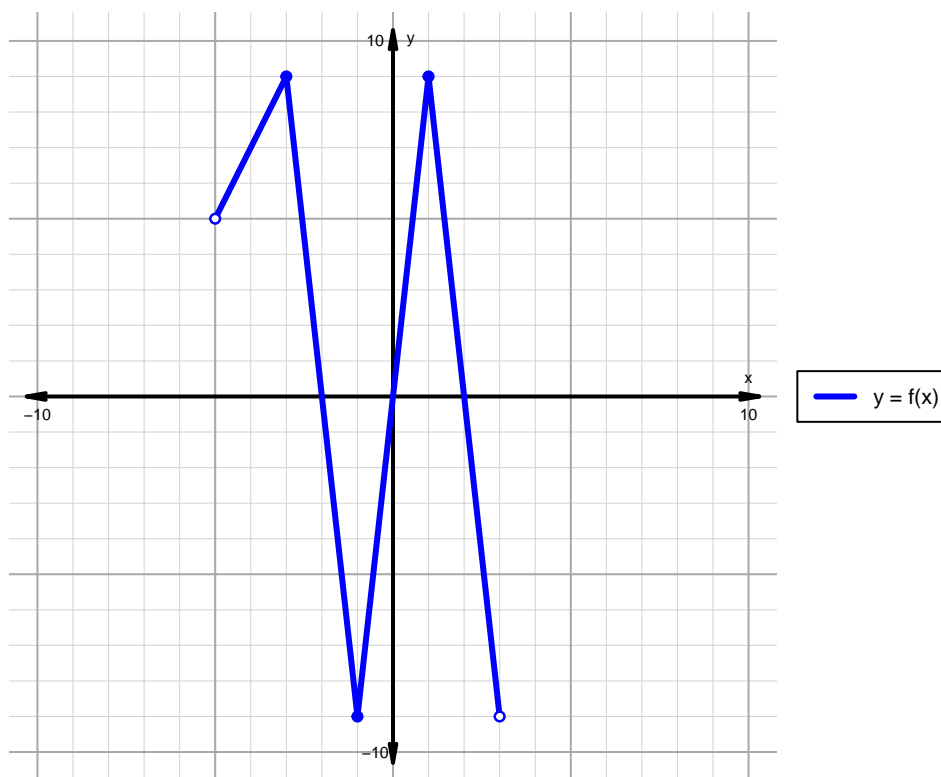


Name: _____

Date: _____

Intervals, Transformations, and Slope Solution (version 10)

1. The function f is graphed below.

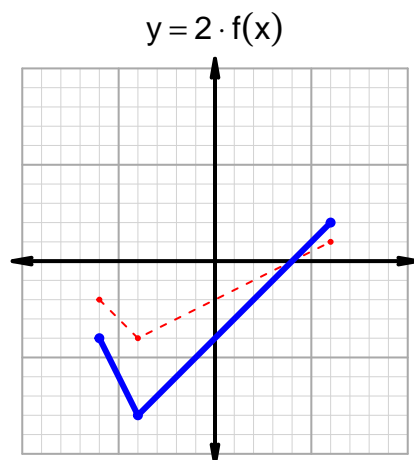
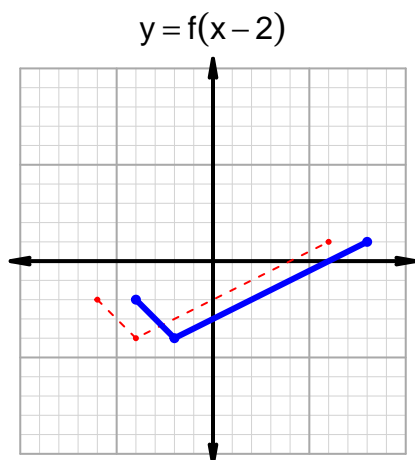
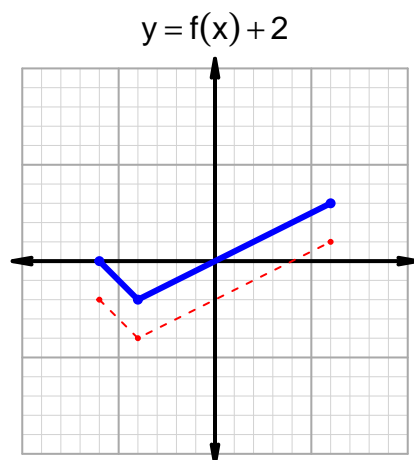
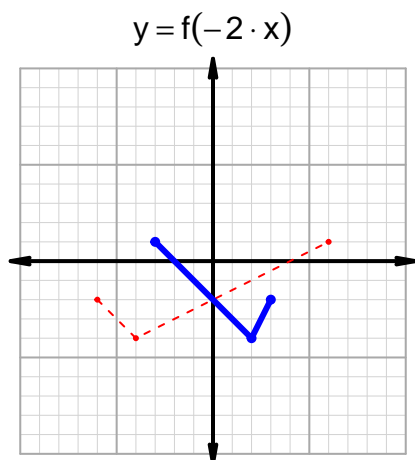


Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-5, -2) \cup (0, 2)$
Negative	$(-2, 0) \cup (2, 3)$
Increasing	$(-5, -3) \cup (-1, 1)$
Decreasing	$(-3, -1) \cup (1, 3)$
Domain	$(-5, 3)$
Range	$(-9, 9)$

Intervals, Transformations, and Slope Solution (version 10)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 27$ and $x_2 = 57$. Express your answer as a reduced fraction.

x	$g(x)$
17	57
27	17
35	27
57	35

$$\frac{f(57) - f(27)}{57 - 27} = \frac{35 - 17}{57 - 27} = \frac{18}{30}$$

The greatest common factor of 18 and 30 is 6. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{3}{5}$$